

REMARKS

By the above amendment, informalities in the specification have been corrected, noting that the Examiner has objected to such informalities in other copending applications. Additionally, claims 4 - 6 have been canceled without prejudice or disclaimer of the subject matter thereof and new claims 7 -19 have been presented wherein claim 7 is the only independent claim in this application.

Turning to claim 7, applicants submit that this claim recites the structural features of the present invention as illustrated in Figures 5 - 8 of the drawings for example, and as described in the specification. More particularly, claim 7 recites the features of a vacuum processing apparatus which includes a vacuum container represented by the outer chamber 511 as illustrated in Figures 5 and 6, for example, in which an inside thereof is evacuated and in which a wafer is processed using plasma. An inner chamber represented by the chambers 509 and 510, for example is detachably disposed inside the vacuum container and has an inner space in which a wafer table 504, for example, is disposed, and in which inner chamber a processing gas is supplied. As clearly illustrated in Fig. 6 and as described in the specification of this application, the inner chamber has an axisymmetric structure, and a side wall which delimits a part of the inner chamber 509 has an opening disposed therein, as more clearly seen in Fig. 7, and through which opening the wafer to be supported on the wafer table is passed. As described in the first paragraph at page 25 of the specification, a gate or opening in the vacuum container 511 is disposed so as to enable communication with the opening in the side wall of the inner chamber so as to enable transfer of the wafer from the outside from a transfer chamber 112, for example, to the inner space of the inner chamber through the opening in the side wall. Furthermore, a valve 513, for example, is disposed

between the opening in the side wall and the gate, which valve is movable in both vertical and horizontal directions with respect to the outside of the side wall of the inner chamber by way of the valve driver 521, for example, so as to open and close the opening and for sealing the opening in an airtight manner, as described in the paragraph bridging pages 24 and 25 of the specification. As further described, when the opening in the inner chamber 509, which is described as a process gate, is closed by the valve 513, the inner walls of the inner chambers 509 and 510 do not become uneven so that it is apparent that the valve has a shape which reduces unevenness in the inner walls when the opening is opened and the valve does not interfere with the axisymmetric structure of the inner chamber. Another valve 514, for example, serves for closing the gate or opening in the vacuum container and maintains such condition as shown in Figs. 7 and 8, when the inner chamber is lifted out from the vacuum container. Applicants note that the aforementioned features are now recited in claim 7 and the dependent claims of this application and such features are not disclosed or taught in the cited art as will become clear from the following discussion.

As to the rejection of claims 4 and 6 under 35 USC 102(b) as being anticipated by US Patent No. 5,884,009 to Okase and the rejection of claim 5 under 35 USC 102(b) as being anticipated by US Patent No. 6,192,827 to Welch et al, such rejections are obviated by the cancellation of claims 4 - 6 and are traversed insofar as they are applicable to newly submitted claims 7 - 18.

As to the requirements to support a rejection under 35 USC 102 reference is made to the decision of In re Robertson, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claim is found, either expressly or inherently

described in a single prior art reference. As noted by the court, if the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if the element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

Turning first to Okase ('009) irrespective of the Examiner's contentions concerning inner and outer cylindrical vessels 1 and 2 and a gate valve 13, it is readily apparent that while the outer cylindrical vessel 1 has an opening 11, which is closeable by the gate valve 13 and a shutter 12 which is moved upward to close the opening 11, the inner cylindrical vessel 2 has an opening 41 therein which always remains open. Thus, Okase ('009) does not disclose or teach the structural features of claim 7 of a valve disposed between the opening of the side wall of the inner chamber and the gate, which valve is movable with respect to the outside of the sidewall of the inner chamber so as to open and close the opening for sealing the opening in an airtight manner, wherein a portion of the valve has a shape which does not interfere with the axisymmetric structure of the inner chamber. As such, applicants submit that claim 7, and therewith the dependent claims, which recite further structural features of the present invention, not disclosed or taught by Okase ('009) patentably distinguish over this patent in the sense of 35 USC 102 as well as 35 USC 103 and should be considered allowable thereover.

With respect to Welch et al, even though this patent discloses a chamber body 24 and a liner 50 with a gate valve 60 for closing an opening formed in the liner 50 through which the object enters the chamber as delimited by the liner 50, Welch et al discloses in column 4, lines 36 - 40 that the "inner slit passage door 60 fits in a slit door recess 54 in the chamber liner assembly 50 so that when the inner slit passage door 60 is in its down position, it covers and overlaps the slit opening 52 in the liner assembly 50". (emphasis added) Further, as described in connection with Figure 10 at column 7, lines 25-40 of Welch et al which shows the inner slit passage door 60 in its lowered position, "the gaps (e.g., 88, 90) between the front faces (62, 66) of the inner slit passage door 60 and the facing liner upper and lower surfaces (84, 86) are approximately several tens of thousands of an inch (several times 0.254 mm)." And as described in column 7, lines 29 - 39 the gap dimensions are maintained and is large enough so that the risk of the door touching (rubbing against) liner during operation is minimized. While the gap is small enough so that plasma is choked and chemical byproducts cannot pass therethrough, it is readily apparent that the slit door 60 does not airtightly seal the opening and therewith the inner chamber. Furthermore, due to the presence of the opening, it is apparent that the inner chamber as represented by the liner 50 does not have an axisymmetric structure. In contradistinction, due to the shape of the valve 513 as illustrated in the drawings of this application, a portion of a valve fits within the opening so as to reduce unevenness due to the opening in the chamber walls and not interfere with the axisymmetric structure. Accordingly, contrary to the position set forth by the Examiner, Welch et al does not disclose or teach the claimed features as recited in claim 7 and the dependent claims of this application in the sense of 35 USC 102 or 35 USC 103 and all claims patentably distinguish thereover.

In view of the above amendments and remarks, applicants submit that all claims present in this application patentably distinguish over the cited art and should now be in condition for allowance. Accordingly, issuance of an action of favorable nature is courteously solicited.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 648.43120CX1), and please credit any excess fees to such deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP



Melvin Kraus
Registration No. 22,466

MK/jla
(703) 312-6600